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United States Department of Agriculture
Cooperative State Research, Education, and Extension Service
CSREES Plant Sciences

# Plant Sciences UPDATE

## May 2005

Spring Issue

*IN THIS ISSUE*



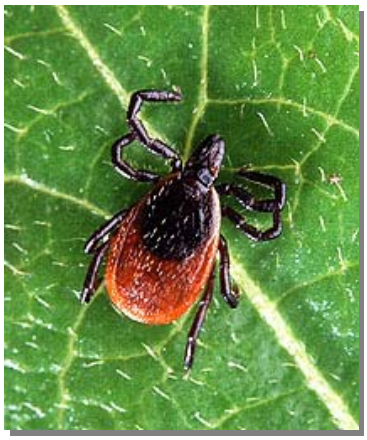
PLANT SCIENCES UPDATE WEB LINK: www.csrees.usda.gov/newsroom/newsletters/plantsciencesupdate/psupdate.html

For more information on the Plant Sciences Update contact Amy Rhodes at arhodes@csrees.usda.gov

# LEAD STORY

## Pest Problems Tackled By the Vine

With the increasing public concern about insect borne diseases like West Nile virus, global warming, the spread of diseases to more temperate climates like the United States, and the disastrous negative impact of insect borne diseases to developing countries, better methods of controlling mosquitoes, ticks, flies and other insects are greatly needed. One effective method for preventing disease is the use of insect repellents that can be used on humans and animals, released into the air for area wide control around homes, businesses and farms, and permanently incorporated into clothing, window screening and bed netting. Although there are a number of effective repellents available, the public is reluctant to use these compounds because they are considered as artificial chemicals. What is greatly needed is a natural repellent, which is as effective as DEET. At least some commercial DEET repellents also can be unsafe because their formulations are flammable, and they can be accidentally ignited when applied to clothing or skin.



Dr. R. M. Roe, a William Neal Reynolds Distinguished Professor at North Carolina State University, has discovered a natural repellent from the tomato plant effective against a wide variety of pests including mosquitoes, ticks, flies and agricultural insects. Dr. Roe has obtained several patents on his invention, and the university has licensed the repellent to a North Carolina Company, HOMS. The commercial product produced by HOMS, which contains the tomato-based repellent, has been shown to be effective as DEET for mosquito control and more effective than DEET for tick control. It will be sold under the trade name, BioBlock UD. The product is formulated as a water-based emulsion, is safe and is not flammable. The repellent has been classified by EPA as a biological and will be sold as all natural and for the prevention of insect-borne diseases. EPA registration in the U.S. is scheduled for 2006. In addition to the use of BioBlock UD as a repellent on humans, the material should have a number of other applications in livestock and animal production, protection of dogs, cats and horses, area wide control of mosquitoes and flies around decks, swimming pools and other outdoor areas, organic gardening and many other applications including the production of repellent cloths. Since the public will be more accepting of the all natural BioBlock UD than current DEET-based products, they will use repellents more when they are exposed to biting insects; and therefore, be better protected from insect- and tick-borne diseases.

Funding for this project comes from the North Carolina Agricultural Research Service. Dr. Roe's laboratory has been almost continuously funded by CSREES, with programs like Hatch and NRI since 1983. His current CSREES NRI grant is to continue working on the Trypsin modulating oostatic factor (TMOF) chemistry which led to this discovery.

**For more information**: Dr. R. Michael Roe at michael_roe@ncsu.edu or 919-515-4325

# FUNDING IMPACTS AND OPPORTUNITIES

## Applying for Grants at GRANTS.GOV

Grants.gov is the site to find and apply for more than $360 billion in competitive Federal grants across all 26 Federal Grant making agencies. Currently there are more than 2,050 active grant opportunities posted on the site spanning 20+ diverse grant categories ranging from Agriculture to Technology. Over 70 active electronic grant application packages are available on Grants.gov to apply today from Federal agencies, including the Departments of Agriculture, Commerce, Education, and Health and Human Services, the Environmental Protection Agency, the Social Security Administration, and the National Endowments for the Arts and Humanities. Through Grants.gov, the grant community has online access to grant application packages to find and meet the nation's most essential public needs, including an Education grant to reduce alcohol abuse, a Health and Human Services state planning grant, and a USDA scientific cooperation research program.

Grants.gov also provides the ability to download a grant application package and then view and complete it offline giving you the flexibility to complete grant applications when and where you want. It also enables you to easily route it through your organization for review, to complete various components, just like any other email attachment. When the application is complete and ready for submission, you can connect to the Internet and simply click the submit button.

**Grants.gov resources on the web**

- Grants.gov checklists for Organizations, Individuals, Institutions, etc. – www.grants.gov/RegistrationChecklist
- Other useful links, including foundation resources, funding resources, grants management resources, and more: www.grants.gov/RelatedLinks

## *IMPACTS*

### RAMP Project on Soybean Aphid Sparks Informational Newsletter

A CSREES RAMP study, "Soybean Aphid in the North Central US: Implementing IPM at the Landscape Scale," is a recently funded joint project among entomologists, plant pathologists, and agricultural economists from Iowa State University, Michigan State University (lead institution), the University of Minnesota, and the University of Wisconsin. To keep people informed about the project, they developed a newsletter which is mailed quarterly to approximately 400 commodity representatives, agribusiness contacts, extension agents, and researchers in the midwest and Canada. The first issue of the newsletter was published in December 2002 and described the project goals and listed the cooperators. The second newsletter, released in March 2005, specifically discussed two project objectives: a survey of soybean producers lead by Dr. Kent Olson from the University of Minnesota and a common set of large-scale plots, termed IPM comparisons, planned for the 2005 field season to validate soybean aphid thresholds. The newsletter is available online on the "Soybean Aphid in Minnesota" Web site: www.soybeans.umn.edu/crop/insects/aphid/aphid_ramp.htm

**For more information:** Chris Difonzo at difonzo@msu.edu

### IFAFS Grant Examines Consumer Perception of Ag Biotechnology

CSREES under the Initiative for Future Agriculture and Food Systems Program (IFAFS) funded a study at Rutgers Food Policy Institute (FPI) to examine consumer perceptions of agricultural biotechnology, specifically genetically modified (GM) food in the United States. A report was developed by the FPI that presents the results from the third in a series of studies. All three studies were based on survey results of separate, nationally representative samples of approximately 1,200 Americans taken in 2001, 2003, and 2004.

According to the FPI, while most Americans say they are interested in the technology and have opinions about it, most lack the tools and background needed for an informed assessment. Despite the abundance of products with GM ingredients, the FPI study found that fewer than half of Americans (48%) are aware that such products are currently for sale in supermarkets, and less than a third (31%) realize they regularly consume GM foods.

An electronic copy of the report, which is titled, "*Americans and GM Food: Knowledge, Opinion and Interest in 2004,*" is posted at www.foodpolicyinstitute.org/docs/reports/NationalStudy2004.pdf. Information about the Rutgers Food Policy Institute is posted at www.foodpolicyinstitute.org

**For more information**: William Hallman at Hallman@RCI.Rutgers.edu

## Mid-Atlantic Garden Information Service

The University of Maryland's Home and Garden Information Center (HGIC) (www.hgic.umd.edu) offers a web-based gardening question and answer service. This service allows clients to send an electronic question with or without a photograph to an array of horticulture consultants, who address and answer the submitted questions. The consultants on staff are also responsible for writing fact sheets and teaching manuals, web site development, teaching, applied research projects and media outreach. This question and answer service was initially started by a grant from the Northeast Regional Integrated Pest Management Grants Program, which is funded by CSREES. Through an IPM Special Projects grant from CSREES, this service has expanded to include all of the Mid-Atlantic and Northeast regions.

The HGIC has offered an in-state hotline since 1990. Other Web-based information includes a large collection of fact sheets, timely tips, an extensive links section, and a unique plant diagnostic site. The plant diagnostic site utilizes a large array of color images to help the user diagnose plant problems. This site can be accessed at www.hgic.umd.edu/diagn. The HGIC is also heavily involved with invasive pest issues such as sudden oak death and is currently working to develop additional web pages on soybean rust and the brown marmorated stink bug.

To access the question and answer service from the homepage visit www.hgic.umd.edu, then user needs to select the "Send a Question" button from the menu.

**For direct Web access to the Q&A section:** www.hgic.umd.edu/email_faq/email_main.html
**For the Home and Garden Hotline:** 1-800-342-2507
**For more information**: Mary Kay Malinoski at mkmal@umd.edu

## Protected Agriculture at the University of Florida

Faculty from several departments at the University of Florida (UF) along with graduate students, are working to improve vegetable crop production through protected agriculture systems, including greenhouses, soilless culture, hydroponics, and integrated pest management. The Protected Agriculture Project (PAP) conducts research on greenhouse vegetable production through CSREES' Hatch and special grants programs. Dr. Daniel Cantliffe, Chairman of the Horticultural Sciences Department at UF, leads the PAP group along with other faculty based on their individual specialties: Dr. John Vansickle, Economics; Dr. Lance Osborne, Entomology/Biological Control; Dr. Steven Sargent, Postharvest; and Dr. Phil Stansly, Entomology. The PAP has also developed a website designed to keep growers and others interested up to date on research, meetings, and publications of those involved. Information on the types of research conducted can be found at www.hos.ufl.edu/protectedag.

**For more information:** Dr. Daniel Cantliffe at djc@ifas.ufl.edu

## Economic Impact of Cotton IPM Programs in South Carolina

State IPM coordinators and IPM program evaluators face an increasing demand for hard data on the payoffs resulting from investment of public funds in IPM programs. Until recently, state IPM programs were evaluated based on aggregate numbers of outreach activities. However, with ever increasing competition for resources, research and extension programs will be evaluated according to the same criteria as other agricultural inputs (i.e., the value of the product must at least equal the cost of the resources expended). Thus there is a critical need to quantify the economic returns on dollars invested in IPM research and extension.

Through an Southern Region IPM Special Projects grant from CSREES, Clemson University conducted a survey of all South Carolina cotton growers to determine 1) their level of adoption of IPM practices, 2) the relationship between their level of IPM adoption and frequency by which they follow Clemson cotton IPM recommendations, and 3) the economic benefits to growers who follow IPM recommendations. Data were summarized from a total of 162 grower surveys.

The survey results indicated that a high percentage of South Carolina cotton growers have adopted a moderate to high level of recommended IPM practices. Growers who indicated that they "never or seldom" utilized Clemson IPM guidelines ranked lower on the IPM adoption scale compared with growers who "usually or always" followed the guidelines. Growers who followed the IPM guidelines reported higher yields and $57 per acre higher net returns than growers who did not follow the guidelines. The higher returns, directly attributable to grower adoption of IPM practices developed and promulgated by the Clemson Cotton IPM Program, translate to an overall annual return of $12.5 million to South Carolina cotton growers.

**For more information**: Geoff Zehnder at zehnder@clemson.edu
**Web access:** www.clemson.edu/scg/ipm/whatsnew.html

## *OPPORTUNITIES*

### Functional Genomics

CSREES requests applications for the National Research Initiative (NRI) Functional Genomics of Agriculturally Important Organisms Competitive Grants Program. In FY 2005, it is anticipated that approximately $8 million will be available for support of this program. Completed applications must be received by close of business on **June 15, 2005**.
**For more information:** Ann Lichens-Park at apark@csrees.usda.gov (Microbes); Peter Burfening at pburfening@csrees.usda.gov (Animals); Mary Purcell-Miramontes at mpurcell@csrees.usda.gov (arthropods and nematodes); Ed Kaleikau at ekaleikau@csrees.usda.gov (Plants)
**Web access:** www.csrees.usda.gov/fo/functionalgenomicsnri.html

### Plant Biosecurity Program

CSREES requests applications for the National Research Initiative (NRI) Plant Biosecurity Competitive Grants Program For specific program priorities refer to the NRI FY 2005 Request for Applications (RFA) posted on the web. CSREES anticipates that approximately $4 million will be available for support of this program and up to $1 million will be awarded for each grant for a period of 3-4 years. Completed applications must be received by close of business on **June 15, 2005**. Application materials can be downloaded from the web.
**For more information:** Kitty Cardwell kcardwell@csrees.usda.gov or Ed Kaleikau at ekaleikau@csrees.usda.gov
**Web access:** www.csrees.usda.gov/fo/biosecurityanimalplantnri.html

### Sustainable Agriculture Research and Education Program (SARE)

SARE is a competitive grants program providing grants to researchers, agricultural educators, farmers and ranchers, and students in the United States.
**Research and Education Grants:** Ranging from $30,000 to $150,000 or more, these grants fund projects that usually involve scientists, producers, and others in an interdisciplinary approach.
**Professional Development Grants:** To spread the knowledge about sustainable concepts and practices, these projects educate Cooperative Extension Service staff and other agricultural professionals.
**Producer Grants:** Producers apply for grants that typically run between $1,000 and $15,000 to conduct research, marketing and demonstration projects and share the results with other farmers and ranchers.
**Other grant opportunities:** Graduate students, community development practitioners, and agricultural educators conducting on-farm research can apply for grants in some SARE regions.

- **Northeast:** www.uvm.edu/~nesare/grants.html
  - Professional Development Grants. Preproposal required; deadline **May 31**.
  - Research and Education Grants. Preproposal required; deadline **May 31**.
- **South:** www.southernsare.org/callpage.htm
  - Graduate Student Grants. **Deadline June 1**.
  - Professional Development Program. Preproposal required; deadline **June 1**.
  - Research and Education Grants. Preproposal required; deadline **June 1**.
  - Planning Grants/Research and Education Program. Deadline **June 1**.
  - Farm Mentor Program. **Deadline July 1**.
- **West:** http://wsare.usu.edu/grants/
  - Research and Education Grants. Preproposal required; deadline **June 6**.
  - Professional Development Grants. Deadline **November 15**.
  - Farmer/Rancher. Deadline **Dec. 12**.
  - Professional and Producer. Deadline **Dec. 12.**
- **North Central:** www.sare.org/ncrsare/cfp.htm
  - Professional Development Grants. Deadline **May 27**.
  - Research and Education Grants. Deadline **June 15**.

**For more information:** Jill Shore Auburn at jauburn@csrees.usda.gov
**Web access:** www.csrees.usda.gov/fo/sustainableagricultureresearcheducation.html

## Applied Plant Genomics Coordinated Agricultural Project

CSREES requests applications for the National Research Initiative (NRI) Competitive Grants Program – Applied Plant Genomics – Coordinated Agricultural Project (CAP) for fiscal year 2005 to engage the applied plant-sciences, both public and private, and involve them in the application of genome discoveries and technology to U.S. crop or forestry improvement. Approximately $5 million is available for awards under this solicitation. The program anticipates making only one award. Completed applications must be received by close of business on **July 1, 2005**. Letters of intent are due by **June 1, 2005**. Application materials can be downloaded from the web.
**For more information:** Ed Kaleikau at ekaleikau@csrees.usda.gov
**Web access:** www.csrees.usda.gov/fo/plantsappliedgenomicscapnri.html

## The Horticultural Research Institute (HRI)

HRI is seeking worthy research proposals to address key research needs of the green industry. HRI has directed over $4 million of industry funds to research projects covering the full range of production, environmental and business issues important to the trade. For 2005, HRI granted $220,000 to 18 projects and four scholarships. HRI also seeks innovative research proposals dealing with mechanization and applied technology research. Researchers seeking project support must meet HRI's industry-approved standards for value, impact and accountability. Industry leaders evaluate the significance and economic usefulness of projects; HRI's scientific advisory panel assesses a project's feasibility and methodology. Visit HRI's grant page at www.anla.org/research/grants/index.htm for complete application and eligibility requirements. Applications are due by **May 15, 2005**.

## Higher Education Multicultural Scholars Program

Grant funds and requests for applications for the Higher Education Multicultural Scholars Program (MSP) for fiscal years (FY) 2004/2005 are now available through CSREES. The purpose of the MSP is to meet national and international needs for training food and agricultural scientists and professionals. The amount available for support of this program in FY 2004/2005 is approximately $1.9 million. The program anticipates making awards ranging from $40,000 to $100,000. Completed applications must be received by close of business on **June 1, 2005**. Application materials can be downloaded from the Web.
**For more information:** Audrey Trotman at atrotman@csrees.usda.gov
**Web access:** www.csrees.usda.gov/fo/multiculturalscholarshep.html

# CSREES PROGRAM HIGHLIGHTS

## Ag Biosecurity Workshop

On March 3-4, 2005, CSREES, in cooperation with the National Institutes of Health (NIH) Office of Biotechnology Activities (OBA), convened a one-time workshop on Biotechnology Research and Agricultural Biosecurity in Arlington, Virginia. Active participants included 30 invited experts from academia, industry, non-profits, and government on microbiology, plant science, animal/veterinary science, and Institutional Biosafety Committee (IBC) operations. The purpose of the CSREES biosecurity workshop was to examine: 1) agency policies, processes, and procedures for oversight of agricultural biotechnology research; and 2) the intersection between agricultural biotechnology research, regulation/oversight, and biosecurity in the United States. Workshop participants heard plenary presentations on issues in agricultural biotechnology research, biosafety and biosecurity issues in agricultural research, and issues in plant and animal biotechnology research. They also discussed a 2003 National Research Council report entitled *Biotechnology Research in an Age of Terrorism* (www.nap.edu/books/0309089778/html/) and developed input on issues, concerns, and options for biotechnology research and agricultural biosecurity for a new federal advisory committee, the National Science Advisory Board for Biosecurity, being formed at NIH.
**For more information:** Dan Jones djones@csrees.usda.gov

## IR-4 Receives Award for Biopesticide Registration Efforts

The IR-4 Project was recognized on March 2, 2005, for its assistance in the registration of AF36 by Mr. Larry Antilla, Director of the Arizona Cotton Research and Protection Council. An individual award was presented to Dr. Michael Braverman the Pesticide Research Program Coordinator in addition to the award presented to Dr. Robert Holm the IR-4 executive director on behalf of the IR-4 Project. The awards were presented at the 61st annual meeting of the Arizona Cotton Research and Protection Council in Casa Grande, Arizona.

AF36 was discovered and developed by Dr. Peter Cotty of USDA-ARS in Tucson. Most fungi known as Aspergillus flavus cause the production of a toxin known as aflatoxin. AF36 is an isolate of the naturally occurring organism Aspergillus flavus that does not produce aflatoxin. When AF36 is applied in cotton fields it displaces the toxic producing Aspergillus flavus present in the soil, thereby reducing the presence of the mycotoxin in crops and the environment.

The Arizona Cotton Research and Protection Council, a growers organization, manufactures and distributes AF36 to fellow growers in Arizona and Texas. The registration has also been expanded into the Imperial Valley region of California. IR-4 is primarily involved in specialty crops, but is also involved in minor uses on major crops. For this project, IR-4 developed the registration package and was a consultant to the Arizona Cotton Research and Protection Council in their petition submission to EPA. There are currently no conventional products used to manage the aflatoxin producing fungi, therefore, this biopesticide represents a new tool for growers.

Major funding for IR-4 is provided by special research grants and Hatch Act Funds from CSREES, in cooperation with the State Agricultural Experiment Stations, and USDA-ARS.

**For more information:** Sherrilynn Novack at novack@aesop.rutgers.edu
**Web access:** www.ir4.rutgers.edu

## A Multi-State Coordinating Committee for Plant Breeding

Plant breeding has been, and by any scenario will remain, a major contributor to U.S. agriculture. It impacts all five strategic goals of the USDA Research, Education, and Economics (REE) 2003-2008 Strategic Plan. Nonetheless, plant breeding is often unmentioned in the many road maps, white papers, and plans written to guide our national approach to strategic goals for agriculture and food. Given the scope of plant breeding's impact, why is it not better known?

Part of the answer is the era of electronic databases. CSREES' Current Research Information System (CRIS), for example, does not code projects by methods used, because methods are so many and so often in flux. Plant breeding is a method, as are biotechnology and genomics. Consequently, none of these show up in the computer-assisted rapid data searches so often relied on by authors and planners. But other activities and media keep biotech and genomics in the news. For better or worse, plant breeding, phenomenally successful, but neither novel or controversial lacks the media presence of the newer methods.

Starting in FY 2006, a new multi-state coordinating committee for plant breeding will serve as a readily-searchable electronically-visible "one stop" identity for the national plant breeding effort. Its electronic visibility alone should begin to help communicate the centrality of plant breeding to national goals. In addition, it will serve as a venue and contact point to link plant breeders of both agronomic and horticultural crops who seek to identify and address problems and opportunities of national importance for plant breeding.

General objectives for the plant breeding coordinating committee, to be refined as the committee matures, will include 1) exchanging information within and about the U.S. plant breeding effort; 2) describing the benefits from plant breeding; and, 3) identifying research and education priorities. The meeting schedule will be opportunistic and coincide with professional meetings such as the Crop Science Society of America, American Society for Horticultural Science, or other meetings that bring plant breeders to one location.

A small drafting team to prepare start-up documentation includes breeders representing each region covering horticultural and agronomic crops. Every State Agricultural Experiment Station (SAES) will be invited to name a representative. Membership is open to the Agricultural Research Service (ARS) and private sector breeders. There is no limit on number of participants, although voting, when required, is restricted to one vote per "respective entity" (SAES, company, or federal agency). Given the challenging goal of identifying constructive action on key issues facing plant breeding, the coordinating committee will encourage participation by all interested plant breeders.

For more information on the 2003-2008 Strategic Plan visit www.csrees.usda.gov/ree/strategic_plan.htm
**For more information:** Ann Marie Thro at athro@csrees.usda.gov.

## New Co-Director for the Northeastern IPM Center

Carrie Koplinka-Loehr was recently appointed as the new co-director of the Northeastern Integrated Pest Management Center. She joins the Center following a nationwide search conducted with the guidance of a regional committee drawn from the Center's leadership. Carrie has an MS in Science Education from Cornell University and most recently served as

leader of the New York State IPM Program's Communications Team. Her extensive background in IPM communications, education, and facilitation will be a tremendous asset to the Center in its efforts to foster the development and adoption of IPM throughout the region. Carrie is based at Cornell University and shares leadership of the Center with co-director John Ayers, a plant pathologist at The Pennsylvania State University. She officially joined the Center staff on February 16, 2005, replacing Jim VanKirk, who left the Center in August 2004. You can reach Carrie via e-mail at ckk3@cornell.edu.

## Perchlorate in Agricultural Products

In January 2005, the National Research Council (NRC) released a report entitled *Health Implications of Perchlorate Ingestion* commissioned by the Environmental Protection Agency, the Departments of Defense and Education, and the National Aeronautics and Space Administration (www.nap.edu/catalog/11202.html). Perchlorate is a chemical substance that has been used in explosives and rocket fuel for decades. Effluents from perchlorate manufacturing plants have resulted in measurable amounts of perchlorate in water supplies, dairy products, and irrigated agricultural crops.

Federal agencies, state agencies, the U.S. military, and industrial, environmental, and consumer interest groups have been at odds over perchlorate issues such as sources of contamination, movement in soil and water, and safe levels in food and water. Perchlorate is not highly toxic to healthy adults, but it can compete with iodide for uptake by the thyroid gland and affect thyroid function and development in sensitive populations such as fetuses, infants, and pregnant women. Since the NRC report focused on the potential toxicity of perchlorate rather than on exposure issues, CSREES has developed a preliminary research agenda on the extent and potential consequences of exposure to perchlorate from agricultural products. The preliminary CSREES perchlorate research agenda complements the NRC report by focusing on natural background levels and transport, human exposure to perchlorate through various food and water routes, iodide consumption and health status, and consumer information about perchlorates.

**For more information:** Dan Jones at djones@csrees.usda.gov

## Soybean Rust Debuts on USDA Site

USDA recently unveiled its new interactive soybean rust Web site as part of a national soybean rust plant disease surveillance and monitoring network. "USDA is launching this Web site to help ensure farmers and producers have easy access to all the best information and guidance on soybean rust," said Mike Johanns, US Secretary of Agriculture. "This web page will serve as a one-stop shop for anyone who depends on the soy industry to help understand these issues and make informed decisions."

The one-stop federal resource, www.usda.gov/soybeanrust, provides timely information on the extent and severity of soybean rust outbreaks in the United States, Caribbean basin and Central America. It will give users up-to-date forecasts on where soybean rust is likely to appear in the United States, reports where the disease exists by county, refers growers to county extension agents nationwide, lists the National Plant Diagnostic Networks laboratories and links to other Web sites to give producers effective disease management options.

Land-grant university activity is well represented on the site. The main page links to a Cooperative Extension Service county extension office locator (a CSREES hosted site), the National Plant Diagnostic Network, Regional IPM Center resources, the Extension Disaster Education Network soybean rust page, as well as other land-grant university based soybean rust resources.

## Northeastern IPM Conference Sheds Light on Priorities

The first Northeast Regional Community and Urban Integrated Pest Management Conference, sponsored by the Northeastern IPM Center, drew nearly 200 researchers, educators, regulators, and pest managers to Manchester, NH, on March 15-16, 2005. The event focused on low-risk, environmentally sound methods for controlling pests in homes, schools, landscapes, and other community settings, offering a much-needed forum for the exchange of ideas among varied groups with intersecting interests. Participants tackled complex topics such as invasive species, wildlife control, public health, and the agriculture-urban interface. A significant outcome of this event was a conference-wide vote on priorities for regional action based on topics submitted by attendees. Top priorities were (1) developing IPM outreach to homeowners and retailers of pest management products, (2) establishing criteria for measuring success in implementing IPM, and (3) quantifying the costs and benefits of IPM adoption in schools and municipal settings. The conference has sparked a lively, continuing debate on the role of IPM in the future of the structural pest control industry, and the session on residential IPM education was so well-received that northeastern community IPM leaders will take it on the road to the National IPM Symposium next spring. A summary of the conference is being developed online at http://northeastipm.org/conference2005_summary.cfm. The Northeastern Integrated Pest Management Center is sponsored by CSREES. **For more information:** Liz Thomas at 315-787-2626 or egt3@cornell.edu

# UPCOMING AND RECENT MEETINGS

2005

June

- Meristems 2005 a Plant Sciences Institute Symposium, Iowa State University, Ames, IA, June 2-5, 2005. www.bb.iastate.edu/~gfst/phomepg.html
- RiceCAP Board/PI Progress Report Meeting, Little Rock, AR, June 13, 2005. www.uark.edu/ua/ricecap/events.htm
- 122nd American Seed Trade Association Annual Convention. Seattle, Washington, June 18–22, 2005. www.amseed.com/mtg_2005ac_index.asp

July

- ASHS Annual Conference, Las Vegas, NV, July 18-21, 2005. www.ashs.org/conferences.html
- OFA - an Association of Floriculture Professionals 2005 Short Course & Trade Show, Columbus, OH, July 9-12, 2005. www.ofa.org
- 10th International Turfgrass Research Conference. Llandudno, North Wales, July 10–15, 2005. www.aber.ac.uk/itrc2005/
- National Association of County Agricultural Agents Annual Meeting. Buffalo, NY, July, 17–21, 2005. www.nacaa.com
- National meeting of U.S. Fish and Wildlife Service IPM Coordinators, Bloomington, MN, July 26-29, 2005. www.fws.gov

August

- Southern Nursery Assoc., Inc. 2005 . . . The World's Showcase of Horticulture® Show, Atlanta, GA, August 11–13, 2005. www.sna.org/tradeshow/index.shtml
- International Conference on Biological and Pro-ecological Methods for Control of Diseases, Pests, and Weeds in Orchards and Small Fruit Plantations, Warsaw, Poland, August 29-31, 2005. www.pomocentre.insad.pl/index.php?pageid=4&id_info=138&action1=infomore
- Water, Wildlife & Pesticides in the West: Pest Management's Contribution to Solving Environmental Problems, Portland, OR, August 31-September 1, 2005. www.wripmc.org/NewsAlerts/westernipmsymposium05.html

September

- 2005 USDA/IR-4 Food Use Workshop, San Diego, CA, September 13-15, 2005. www.ir4.rutgers.edu
- IFOAM World Conference, Adelaide, Australia, September 19-23, 2005. www.nasaa.com.au/ifoam/
- 2nd International Symposium on Biological Control of Arthropods, Davos, Switzerland, September 12-16, 2005. www.cabi-bioscience.ch/ISBCA-DAVOS-2005/

November

- 3rd International Conferecne on IPM Role in Integrated Crop Management and Impacts on Environment and Agricultural Products, Giza, Egypt, November 26-29, 2005. www.arabscientist.org/dl/anouncement.pdf.

2006

- Fifth National IPM Symposium "Delivering on a Promise", St. Louis, MO, **April** 4-6, 2006. www.ipmcenters.org/IPMSymposiumV/
- OFA - an Association of Floriculture Professionals 2005 Short Course & Trade Show, Columbus, OH, **July** 8-12, 2006. www.ofa.org
- ASHS Annual Conference, New Orleans, LA, **July** 27–30, 2006. www.ashs.org/conferences.html
- 27th International Horticultural Congress. Seoul, South Korea, **August** 13–19, 2006. www.ihc2006.org

# INSIDE THE BELTWAY

## Specialty Crops Regulatory Initiative Receives Support from U.S. Secretary of Agriculture

A workshop on regulatory issues for specialty crops, organized by the National Center for Food and Agricultural Policy with CSREES, ARS, Langston University, and APHIS, in November 2004, in Washington, D.C., resulted in a recommendation for the establishment of a program to assist public researchers and small companies with meeting existing regulatory requirements for approval of specialty (i.e., small-market) crops developed using biotechnology. Modeled in part on the successful IR-4 program that assists in extending registrations for agricultural chemicals to smaller market crops, the Specialty Crops Regulatory Initiative (SCRI) would help in clarifying data requirements, serve as a liaison with APHIS, FDA, EPA and other governmental organizations, identify priority crop/trait combinations, assist in collecting the required data, such as compositional analyses or feeding studies, and maintain a database of information that could be utilized for subsequent petitions. A national feasibility committee chaired by Dr. Alan McHughen at UC Riverside recently received $35,000 from the U.S. Secretary of Agriculture's office to seek stakeholder input and further refine the parameters of the program. **CSREES contacts for SCRI are:** Dr. Ann Marie Thro, athro@csrees.usda.gov and Dr. William Goldner, wgoldner@csrees.usda.gov

## CSREES Sponsors Stakeholder Workshop at ASHS Meeting

CSREES will sponsor a stakeholder workshop with the American Society of Horticultural Sciences (ASHS) at the society's annual meeting in Las Vegas on July 17, 2005. This workshop was funded by a Program Enhancement Fund award of the Competitive Programs unit in 2004. A planning meeting was held in 2004 in conjunction with the ASHS annual meeting in Austin, TX. The goal of the workshop is to gather input from ASHS Working Groups and other ASHS participants on needs and potential areas of horticultural research to be considered by CSREES in future funding opportunities. Michael Havercamp of the University of Nevada Cooperative Extension will serve as the facilitator of the workshop. Several CSREES National Program Leaders will be participating and speaking in the workshop, including Tom Bewick, Ann Marie Thro, Bill Goldner, and Liang-Shiou Lin.
**For more information:** Liang-Shiou Lin at Llin@csrees.usda.gov

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**For more information**: Valerie Allen at allenv@osti.gov or 865-576-3469 **Web access:** www.science.gov

## Efforts Toward Genome Research on Wheat

The National Science Foundation and CSREES sponsored a wheat genome sequencing workshop November 10-11, 2003, in Washington, DC. It brought together 63 scientists of diverse research interests and institutions, including 45 from the United States and 18 from a dozen foreign countries. The objectives of the workshop were to discuss the status of wheat genomics, obtain feedback from ongoing genome sequencing projects, and develop strategies for sequencing the wheat genome. A report to convey the information discussed at the workshop, provide the basis for an ongoing dialogue, and bring forth comments and suggestions from the genetics community was published in the October 2004, journal *Genetics* entitled "A workshop Report on Wheat Genome Sequencing: International Genome Research on Wheat Consortium." Which can be found at www.genetics.org/cgi/content/full/168/2/1087.
The workshop summary can be found at www.ksu.edu/igrow/IGROW_workshop_report.html.

# AGENCY PERSONNEL SPOTLIGHT

## John Sherwood Joined Competitive Programs as IPA

Dr. John Sherwood has joined the Competitive Programs Unit for a two year, part-time IPA. Dr. Sherwood is a Professor and Chair of the Department of Plant Pathology at the University of Georgia. He will serve as the National Program Leader for the new NRI program on Microbial Observatories---a joint program with the National Science Foundation. He will also work with Dr. Liang Lin on the NRI Plant Biosecurity program. Dr. Sherwood is a Fellow of the American Phytopathology Society (APS) and has served as Chair of the APS Public Policy Board. Contact him at jsherwood@csrees.usda.gov or 202-720-1765.

# RESOURCES

## Non-chemical Weeding Video

The Central Rocky Mountain Permaculture Institute (CRMPI) has prepared a 30-minute video, "Natural Controls for Noxious Weeds," which documents the advantages of using non-chemical weed control methods. Beyond explaining weed problems, the narrative presents several successful programs involving biological, manual, and cultural control.
Information on the video can be found at www.crmpi.org/video.html.
**For more information:** Jerome Osentowski at 970-927-4158 or email Jerome@crmpi.org.

## Global Plant Breeding Website

A new Web site, entitled Global Plant Breeding, has been developed to keep track of plant breeding activities worldwide. It is a product of the plant breeding symposium on future training of plant breeders that was held at Michigan State University in March.
**Web access:** http://globalplantbreeding.ncsu.edu/

## Farm Safety Promoted by the Alabama Extension System

The Alabama Cooperative Extension Service at Auburn University has developed a Web site on Farm Safety (www.aces.edu/farmsafety). This site offers farm safety training materials, safety management plans, safety rules, fact sheets, news articles and much more.
**For more information**: Jesse LaPrade at jlaprade@aces.edu

## Integrated Weed Management Bulletin

Michigan State University (MSU) has just published extension bulletin E-2931 "Integrated Weed Management." The bulletin was written by Dr. Adam Davis (now with USDA-ARS at Urbana, Illinois) and co-authored with Karen Renner, Christy Sprague, Larry Dyer, and Dale Mutch at MSU. The group met with a working group of farmers and extension staff last winter and discussed integrated weed management systems. The document includes information on weed life cycles and seedbank dynamics, soil properties and organic amendments, tillage, crop rotation, and physical and biological weed management. This is a resource for teaching weed science, weed ecology, or cropping systems classes.
**For more information:** Dale Mutch at mutch@msu.edu
**Web access:** www.msue.msu.edu

## Weed Management and Grassland Conservation Article

Through an Western Region IPM Special Projects grant from CSREES, Marler, M., K. Supplee, M. Wessner, and G. Marks of the University of Montana have conducted research on grassland conservation and weed management. Their work has recently been published in the scientific journal, Ecological Restoration volume 23 entitled - Changing attitudes about grassland conservation in Missoula, Montana- "Weed Capital of the West."
**For more information:** Marilyn Marler at marilyn.marler@mso.umt.edu

# CONFERENCE REPORTS

## Soybean Translational Genomics Conference Report

A "Soybean Translational Genomics Conference," funded by CSREES, was held in St. Louis, Missouri, December 16 -17, 2004. The report from that meeting is available online at http://digbio.missouri.edu/soycap/

## Cross-Legume Advances through Genomics

CSREES co-funded a conference entitled "Cross-Legume Advances through Genomics." It was hosted by the University of California in Santa Fe, New Mexico, and was held December 14-15, 2004. The meeting report is posted at http://catg.ucdavis.edu. An abbreviated report is published in the April 2005 issue of Plant Physiology www.plantphysiol.org/.

## Wheat Translational Genomics Conference Report

A report from the August 2005 "Wheat Translational Genomics Conference,",hosted by the University of California and funded by CSREES, is posted at http://maswheat.ucdavis.edu/Meetings/CAP2005/index.htm.

## CSREES Funds Applied Plant Genomics Coordinated Agricultural Project (CAP)

The goal of the Applied Plant Genomics CAP is to engage the applied plant-sciences, both public and private, in the application of basic discoveries to U.S. crop or forestry improvement. The first RFA for this program was published in FY 2004 to support a CAP focused on large-scale rice translational genomics for U.S. agriculture. In FY 2005 the program is not plant species specific.
Current CAP Reports:
Wheat:
http://maswheat.ucdavis.edu/PDF/Denver04_Report.pdf
Rice: www.uark.edu/ua/ricecap/index.htm
Cotton:
http://cotton.agtec.uga.edu/CottonCAP/CottonCAP05.htm
Barely: http://wheat.pw.usda.gov/pubs/2004/CAP-Barley/
**Web access** for Applied Plant Genomics CAP:
www.csrees.usda.gov/fo/plantsappliedgenomicscapnri.html

# BUDGET

## Senate Takes Action on President's FY 2006 Budget Proposal

On Monday, February 7, 2005, President George W. Bush forwarded the Fiscal Year (FY) 2006 Budget to Congress. The FY 2006 Budget for the Cooperative State Research, Education, and Extension Service (CSREES) includes discretionary funding totaling $1,032,699,000. This represents a decrease of $143,112,000 or approximately 12.17 percent below the FY 2005 Appropriations Act amount of $1,175,811,000. However, this is an increase of $12,677,000 or approximately 1.24 percent above the FY 2005 President's Budget amount of $1,020,022,000. The FY 2006 Budget includes $12 million for the Native American Endowment Fund and an estimated $2,508,000 for interest earned on the Endowment. The FY 2006 Budget also includes mandatory funding of $5 million for the Community Food Projects grant program, and $3 million for the Organic Research and Education Initiative.

The FY 2006 Budget supports the Administration's commitment to competitive programs and to the streamlining of program delivery. In a time of limited resources this is accomplished by: a)increasing funding for the National Research Initiative (NRI), b)adding the new State Agricultural Experiment Stations Competitive Grants Program, c)reducing funding for the Hatch Act and McIntire-Stennis Cooperative Forestry programs, d)eliminating the Animal Health and Disease, Section 1433 Research Program, and e)transferring programs authorized by Section 406 of the Agricultural Research, Extension, and Education Reform Act of 1998 to the NRI and new State Agricultural Experiment Stations Competitive Grants Programs.

The budget proposes funding of $250 million for the NRI to support a)increases in genomics, food, nutrition and obesity, b)water quality, food safety, and pest related programs formerly funded under Integrated Activities; and c)ongoing research activities under the program. This is an increase of $70,448,000 over the FY 2005 Appropriations Act.

The FY 2006 Budget includes funding of $75 million for the new State Agricultural Experiment Stations Competitive Grants Program. This program supports systemwide research planning and coordination and regional, state, and local applied research in areas such as new product/new uses, social sciences, and the environment including ecosystem management. It is proposed that the program also will support research focused on methyl bromide and organic transition formerly funded under Integrated Activities, as well as some of the activities formerly supported by the Hatch Act, McIntire-Stennis Cooperative Forestry, and Animal Health and Disease Programs.

Increases are proposed for the Food and Agriculture Defense Initiative (formerly Homeland Security Program) and the new Higher Education Agrosecurity Program to expand current efforts that address agricultural security issues. The budget proposal includes $3 million for the New Technologies for Ag Extension Program to support systems that will make available research-based education offered by the E-Extension network. Increases are also proposed for the Evans-Allen Program, Graduate Fellowship Program, Expanded Food and Nutrition Education Program, 1890 Institutions Extension Program, and the Outreach and Technical Assistance for Socially Disadvantaged Farmers and Ranchers grants program under Section 2501. The FY 2006 Budget includes funding to continue current program activities for most of the other CSREES programs and in some cases restores programs to the FY 2005 President's Budget level.

Earmarked Special Research Grants, Extension and Research Federal Administration projects and grants, and several specific, targeted programs are not proposed for funding in FY 2006.

The Department is prohibited from administering the Initiative for Future Agriculture and Food Systems (IFAFS) by appropriation language. The budget reflects a continuation of this policy and does not propose funding for IFAFS in FY 2006.

The FY 2006 Budget proposes changes in the general provisions including increasing the amount provided for the NRI that may be used for competitive integrated activities from a maximum of 20 percent to a maximum of 30 percent. Also proposed is the elimination of the cap on indirect costs for competitively awarded grants. This elimination allows full indirect cost recovery under competitive awards.

**CSREES Budget Information:** www.csrees.usda.gov/about/offices/budget.html
**FY 2006 President's Budget Proposal:** www.csrees.usda.gov/about/offices/budget/2006_budget_table.pdf
**Information on the USDA FY 2006 Budget:** www.usda.gov, then clicking on About USDA, and then clicking on budget information.

# PLANT SCIENCES STAFF DIRECTORY

For more information about our programs, consult our Web site or the appropriate individual listed below:

| Name | Discipline / Program / Issue | Phone (202) | Email * |
|---|---|---|---|
| Auburn, Jill | Sustainable Agriculture | 720-5384 | jauburn |
| Bewick, Tom | Horticulture / organic agriculture, invasive species, urban agriculture | 401-3356 | tbewick |
| Bolton, Herb | Entomology / invasive species | 401-4201 | hbolton |
| Bowers, Michael | Ecology / conservation biology, invasive species | 401-4510 | mbowers |
| Cardwell, Kitty | Plant pathology / National Plant Diagnostic Network | 401-1790 | Kcardwell |
| Cleland, Charles | Small Business / Forests & Related Resources / plant physiology | 401-6852 | ccleland |
| Fitzner, Mike | *Section Leader-Plant Systems /* Extension IPM, Regional IPM Centers | 401-4939 | mfitzner |
| Gilbert, Leslie | Horticulture / entomology (pollinators) / sustainable agriculture | 205-0440 | lgilbert |
| Goldner, William | Small Business / Plant Production and Protection – Biology & Engineering, Industrial Applications / production horticulture, specialty crops, plant breeding, physiology, biochemistry | 401-1719 | wgoldner |
| Green, James | Horticulture / nursery and greenhouse crop physiology & production, landscape & turf maintenance, home horticulture / MBT alternatives | 401-6134 | jgreen |
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| Kaleikau, Ed | Plant genomics | 401-6030 | ekaleikau |
| Kimble-Day, Kathy | Program Specialist | 401-4420 | kday |
| Kopp, Dennis | Entomology / MBT alternatives | 690-0745 | dkopp |
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| Lin, Liang-Shiou | Plant genetic mechanisms / plant growth & development | 401-5042 | Llin |
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| Poth, Mark | Director, National Research Initiative | 401-5244 | mpoth |
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| Sheely, Deb | Director, Competitive Integrated Programs | 401-1624 | dsheely |
| Thro, Ann Marie | Plant breeding, plant genetics, genomics, biotechnology | 401-6702 | athro |

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**CSREES Plant Science Websites**
Plant & Animal Systems Unit: www.csrees.usda.gov/about/offices/pas.html
Pest Management Program Index: www.csrees.usda.gov/nea/pest/pest.html

| CSREES Web Links | |
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